DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017942
Date Inspected: 10-Nov-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: William Sherwood and John Pagliero

CWI Present:	☑ Yes	☐ No					
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 6E/7E bottom plate ‘D’ inside, ABF QC Steven Mc Connell was observed performing Ultrasonic Testing (UT) on the welded splice butt joint. QC was using General Electric USM35 ultrasonic machine. QC was also observed scanning from both sides of face ‘A’ of the joint. During the shift, ultrasonic testing on the butt joint was still continuing and should remain tomorrow.

At OBG 6E/7E LS6 longitudinal stiffener inside, QA randomly observed ABF welder Xiao Jian Wan ID #9677 perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding root pass then fill pass on one side of the stiffener splice butt joint. The joint has a double V joint preparation that was welded from one side using E9018H4R with 1/8” diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded is a high strength plate material HPS 485W which has a thickness of 30mm was root welded using a ceramic backing, and fully welded on one side. The splice joint was preheated and maintained to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. During the shift, the welder has completed welding cover pass on one side of the stiffener and has moved to the other side. The QA Inspector noted the ABF QC John Pagliero was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. Prior welding, QC and QA performed a joint verification on the fit up

alignment. The alignment was noted less than 2mm offset and the root gap was measured less than 5mm which deemed acceptable to contract requirements.

At OBG 7E/8E side plate 'C' (1000mm to 3240mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove welding cover pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. After welding the cover pass at location 1000mm to 3240mm, the welder has moved to new location 0mm to 1000mm of the same OBG splice. The welder was noted using Shielded Metal Arc Welding (SMAW) at this location due to limited access of the track mounted Bug-o FCAW-G nozzle holder. This location was also completed and again the welder has moved to new location 7900mm to 10555mm. The welder was noted welding root pass using SMAW. At the end of the shift, root pass welding at this location was completed but the fill/cover pass was not done.

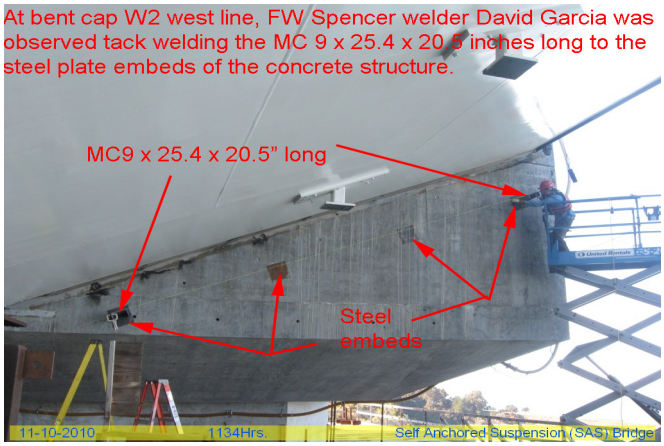
At OBG 8E/9E top deck plate 'A1 to A5', QA randomly observed ABF certified welder James Dan Ieraci and Kenneth Chappell continuing to perform 1G (flat position) Submerged Arc Welding (SAW) welding fill pass on the splice butt joint. Welder Dan Ieraci was noted welding from A1 to A3 while welder Kenneth Chappell was welding on A3 to A5. The welders were utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4042B-1. The joint being welded had a single V-groove butt joint with backing bar. The plates were preheated to more than 150 degree Fahrenheit using Miller Proheat 35 Induction Heating System located on top of the plate prior welding and moving it the side during welding. ABF/QC William Sherwood was noted monitoring the welding parameters of welders. QA noted the welding parameters, the workmanship and appearance of the completed fill deemed satisfactory. At the end of the shift, SAW fill pass welding was still continuing and should remain tomorrow.

At OBG 5W/6W bottom plate 'D' inside, this QA performed 10% MT verification on the welded splice butt joint. QA was using Parker Contour Probe Model DA 400 with serial number 16989 electromagnetic yoke with red magnetic powder as detecting medium. QA found no significant indications during the verification. Please see TL-6028 report for more information.

Pipe Supports at W2 West:

This QA randomly observed the installation and fit-up of the pipe supports being welded to the embeds of the bent cap located at the W2 west line. The tack welding and field welding was performed by David Garcia ID-8789 utilizing a 3.2 mm electrode as per the Welding Procedure Specification (WPS) identified as Fillet Murex. The ¼" all around fillet welding was performed in all positions on two miscellaneous channels MC9 x 25.4 (20.5 inches long) to the vertical steel plate embeds of the concrete structure. The inspection was performed by Mike Johnson utilizing the WPS to monitor the welding and to verify the amperage. The fillet welding of the two miscellaneous channels MC9 x 25.4 was completed and inspection of one of the welded pipe support was completed. The other

welded pipe support still needs to be cleaned. ABF sub-contractor F.W. Spencer has been performing the task mentioned above.



Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer